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EXAMINER

SIEFKE, SAMUEL P

ART UNIT

PAPER NUMBER

1797

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims **1, 3-6 and 31-35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fetner et al. (USPN 5,512,168) in view of Klemm et al. (USPN 5,721,142) and in further view of Jinno et al. (USPN 6,780,314).

Fetner teaches an extraction process that comprises: conditioning a sorbent in a cartridge by passing a liquid suitable for conditioning through the cartridge (col. 10, lines 26-30; col. 10, lines 49-51); applying a sample that contains the analyte to the sorbent by passing a liquid which contains the sample through the cartridge (col. 10, lines 52-54); washing the sorbent by passing a wash liquid through the cartridge (col. 10, lines

55-59); eluting the analyte from the sorbent by passing an elution liquid through the cartridge (col. 11, lines 1-6). Fetner also teaches drying the cartridge receiver tubes for a selected period of time. The gas comprises a dry inert gas. (col. 6, lines 27-30).

Fetner does not teach any information regarding raising or lowering the temperature of the cartridge by flowing a heated or cooled sample through the cartridge.

Klemm teaches a method for monitoring mammalian reproductive cycles by monitoring variation in the quality of one or more low molecular weight volatile compounds. The method for preparing these samples includes reacting the supernatant of the sample and DNPH solution. This reaction sample is heated on a shaker at 60 degrees Celsius for 10 minutes for the reaction to occur. The sample is filtered using a standard filter paper and 2 ml of the filtrate slowly loaded into a C18 solid-phase extraction cartridge. Therefore it would have been obvious to one having an ordinary skill in the art at the time of the invention to modify Fetner to employ heating a sample mixture before loading onto a solid-phase extraction cartridge in order to provide the sample mixture reaction to occur. This is a well known procedure in sample preparation to speed up reactions or allow enhanced sample sensitivity of reagents and sample interactions. The Examiner maintains that loading a solution that has been heated to 60 degrees Celsius would raise the temperature of the solid-phase extraction cartridge to a temperature that is above the temperature before the sample was loaded on the cartridge.

The modified Klem does not teach raising or lowering the temperature of the cartridge *at a rate greater than 5 degrees Celcius/min.*

Jinno teaches a method for phase extraction on a separation column that comprises separating n-alkanes on a separation column for chromatography, the column being packed with ZYLON fibers. The column temperature program comprises raising the temperature at a rate of 10 degrees Celsius/min from 60 degrees Celsius (5 minutes) to 200 degrees Celsius (20 minutes) (col. 10, lines 20-35). The raising of the temperature of the column allows for different chemical reactions with the ZYLON fibers so that complete separation occurs. It is well known in the art that during an elution separation phase of a sample raising the temperature in a controlled and ramped manner provides the above outcome. Therefore it would have been obvious to one having an ordinary skill in the art at the time of the invention to modify the modified Klem to allow for increasing the column temperature in a controlled manner at 10 degrees Celsius/ min to allow for complete separation on a provided column.

Response to Arguments

Applicant's arguments with respect to claims 1, 3-7 and 31-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAM P. SIEFKE whose telephone number is (571)272-1262. The examiner can normally be reached on M-F 7:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Samuel P Siefke/
Primary Examiner, Art Unit 1797